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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,934	04/06/2001	Masayuki Kikushima	108574	7896

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EXAMINER

BUDD, MARK OSBORNE

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 11/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

806934

Applicant(s)

Kikushima

Examiner

M. Budd

Group Art Unit

2834

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-5, 7-24 and 26-32 is/are pending in the application.
- Of the above claim(s) 31 and 32 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-5, 7-24 and 26-30 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☒ The proposed drawing correction, filed on 9-17-02 is ☒ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____.
 - ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7-9, 22-24 and 26-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo in view of Japan (732), Japan (540) or Japan (606).

Kondo teaches a package containing both a piezo resonator and an IC chip. Note fig 5 upper layer #8 has a smaller opening than lower layer e.g. #4.

The chips are wire bonded to the substrate (base). However, Japan (732), Japan (540) and Japan (606) each show it is well known to use flip-chip bump connections for coupling an IC chip to a base. This yields a physically stronger connection. These references while showing the bump patterns and architecture are known do not show some of the claimed specific dimensions.

However, optimizing a device via e.g. trial and error has long been held to be within the skill expected of the routineer. Therefore selection of specific dimensions would have been obvious to one of ordinary skill in the art.

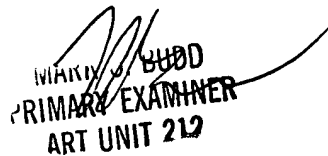
Regarding claim 22 not that the opening length isn't even related to any specific bumps i.e. any specific bump is not explicitly bonded within the opening (defined only as an opening) which defines the length.

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Claims 10-21 rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo in view of Japan (732), Japan (540) or Japan (606) as applied to claim 1 above, and further in view of Ohya.

These claims add using projections located on the cavity wall. Inoi teaches that such side wall project. Projections are used to help orient the electronic component during mounting or to keep the component from contacting the side wall. Thus for at least those reasons it would have been obvious to one of ordinary skill in the art to provide the side walls of Kondo or Knecht with projections.

The drawing corrections filed on 9-17-02 are approved..


M. BUDD
PRIMARY EXAMINER
ART UNIT 212

M BUDD/pj

11/08/02